JUMO TAROS S47 P

Pressure transmitter

Operating Manual

40207200T90Z001K000

V2.01/EN/00740059/2021-10-14

Contents

1 Safety information

General

This manual contains information that must be observed in the interest of your own safety and to avoid material damage. This information is supported by symbols which are used in this manual as indicated.

Please read this manual before starting up the device. Store this manual in a place that is accessible to all users at all times.

If difficulties occur during startup, please do not intervene in any way that could jeopardize your warranty rights!

Warning symbols

DANGER!

This symbol indicates that **personal injury from electrocution** may occur if the appropriate precautionary measures are not taken.

WARNING!

This symbol in connection with the signal word indicates that **personal injury** may occur if the respective precautionary measures are not carried out.

CAUTION!

This symbol in connection with the signal word indicates that **material damage or data loss** will occur if the respective precautionary measures are not taken.

CAUTION!

This symbol indicates that **components could be destroyed** by electrostatic discharge (ESD = Electro Static Discharge) if the respective cautionary measures are not taken.

Only use the ESD packages intended for this purpose to return device inserts, assembly groups, or assembly components.

READ THE DOCUMENTATION!

This symbol, which is attached to the device, indicates that the associated **documentation for the device** must be **observed**. This is necessary to identify the nature of the potential hazard, and to take measures to prevent it.

Note symbols

NOTE!

This symbol refers to **important information** about the product, its handling, or additional benefits.

REFERENCE!

This symbol refers to **additional information** in other sections, chapters, or other manuals.

FURTHER INFORMATION!

This symbol is used in tables and indicates that **further information** is provided after the table.

DISPOSAL!

At the end of its service life, the device and any batteries present do not belong in the trash! Please ensure that they are **disposed of** properly and in an **environmentally friendly** manner.

2 Introduction

2.1 Intended use

The pressure transmitter is used to acquire relative and absolute pressures in liquid and gaseous media.

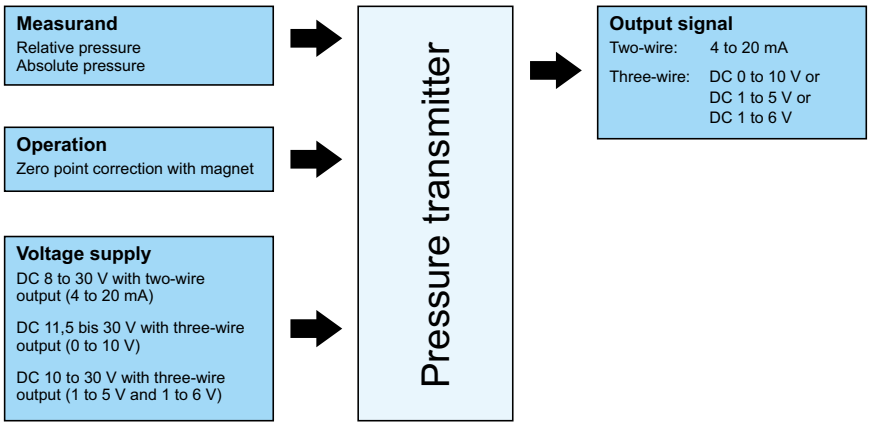
The JUMO TAROS S47 P with an analog output signal has a pressure measuring cell with a piezoresistive silicon sensor. The pressure is converted into an electrical current or voltage signal and output via various electrical connections.

A built-in magnetoresistive switch (MRS) enables the user to adjust the zero point of the device externally using a magnet.

The pressure transmitter is EAC-compliant and UL-approved[1]

The protection offered by the device may be impaired if the device is used in a way that does not comply with the manufacturer's intended use.

2.2 Block diagram



[1] The approval stipulates use of the transmitter indoors only. All surfaces are made from stainless steel in the versions with electrical **connection 36** (round plug M12 × 1) and electrical **connection 75** (terminal head). These versions of the transmitter are also suitable for outdoor use.

3.1 Nameplate

Position

The nameplate is laser-etched on the device surface.

Contents

The nameplate shows important information. This includes:

Description	Designation on the nameplate	Example
Device type	Typ	402072/000
Part no.	TN	00123456
Measuring range		0 to 0.1 bar relative pressure
Voltage supply		⎓ DC 8 to 30 V/25 mA
Output signal		4 to 20 mA
Fabrication number	F-Nr.	0123456701021380123

Device type (Typ)

Compare the specifications on the nameplate with your order documents. The supplied device version can be identified using the order code (⇨ chapter 3.2 "Order details", Page 8).

Part no. (TN)

The part no. uniquely identifies an article in the catalog. It is important for communication between the customer and the sales department.

Fabrication number (F-Nr.)

Among other things, the fabrication number indicates the **production date** (year/week) and the hardware version number.

The **production date** is represented by digits 12 to 15 (from the left).
Example: F-No = 012345670102138**0**123.
The device in this example was produced in the year 20**21**, in the **38**th week.

3 Identifying the device version

3.2 Order details

	(1)	**Basic type**
402072		JUMO TAROS S47 P – pressure transmitter
	(2)	**Basic type extension**
000		None
051		Relative-pressure version without zero point adjustment
999		Special version
	(3)	**Input**
478		-1 to 0 bar relative pressure
479		-1 to +0.6 bar relative pressure
449		-1 to +1 bar relative pressure
480		-1 to +1.5 bar relative pressure
481		-1 to +3 bar relative pressure
482		-1 to +5 bar relative pressure
483		-1 to +9 bar relative pressure
484		-1 to +15 bar relative pressure
485		-1 to +24 bar relative pressure
428		-0.4 to +0.4 bar relative pressure
427		-0.1 to +0.1 bar relative pressure
425		0 to 0.1 bar relative pressure
426		0 to 0.16 bar relative pressure
451		0 to 0.25 bar relative pressure
452		0 to 0.4 bar relative pressure
453		0 to 0.6 bar relative pressure
454		0 to 1 bar relative pressure
455		0 to 1.6 bar relative pressure
456		0 to 2.5 bar relative pressure
457		0 to 4 bar relative pressure
458		0 to 6 bar relative pressure
459		0 to 10 bar relative pressure
460		0 bar to 16 bar relative pressure
461		0 bar to 25 bar relative pressure
462		0 bar to 40 bar relative pressure
463		0 bar to 60 bar relative pressure
464		0 bar to 100 bar relative pressure
487		0 to 0.6 bar absolute pressure
488		0 to 1 bar absolute pressure
489		0 to 1.6 bar absolute pressure
490		0 to 2.5 bar absolute pressure
491		0 to 4 bar absolute pressure
500		0 to 5 bar absolute pressure
492		0 to 6 bar absolute pressure
493		0 to 10 bar absolute pressure
494		0 to 16 bar absolute pressure
495		0 to 25 bar absolute pressure

505		0 to 40 bar absolute pressure
998		Special measuring range for absolute pressure
999		Special measuring range for relative pressure
	(4)	**Output**
405		4 to 20 mA, two-wire
415		DC 0 to 10 V, three-wire
418		DC 1 to 5 V, three-wire
420		DC 1 to 6 V, three-wire
	(5)	**Process connection**
502		G 1/4 DIN EN 837
504		G 1/2 DIN EN 837
511		1/4-18 NPT DIN EN 837
512		1/2-14 NPT DIN EN 837
521		G 1/4 DIN 3852-11
523		G 1/2 DIN 3852-11
562		7/16-20 UNF
571		G 3/4 front-flush DIN EN ISO 228-1
574		G 1/2 front-flush with double seal
575		G 3/4 front-flush with double seal
576		G 1 front-flush with double seal
581		G 1 front-flush with conical seal
	(6)	**Process connection material**
20		Stainless steel
	(7)	**Electrical connection**
12		Attached cable, shielded
36		Round plug M12 × 1
61		Line socket DIN EN 175301-803, form A
75		Terminal head
	(8)	**Measuring system, filling medium**
01		Silicone oil
	(9)	**Extra codes**
000		None
061		With UL approval[a]
374		Inspection certificate 3.1 EN 10204 – material
462		Inverted output signal
624		Oil and grease free
769		Calibration certificate

[a] Not possible with electrical connection 12 (attached cable).

3 Identifying the device version

	(1)		(2)		(3)		(4)		(5)		(6)		(7)		(8)		(9)
Order code		/		-		-		-		-		-		-		/	
Order example	402072	/	000	-	491	-	405	-	504	-	20	-	61	-	01	/	000

3.3 Accessories

NOTE!

The following accessories are **not** UL-approved.

Item	Part no.
Line socket, 4-pole, M12 × 1, straight, with 2-m PVC cable, without pressure compensation	00404585
Line socket, 4-pole, M12 × 1, angled, with 2-m PVC cable, without pressure compensation	00409334
Magnetic pin for simple adjustment of zero point	00736330

NOTE!

When using a transmitter with UL approval, the user must make sure that the accessory he uses is also approved for a UL application (e.g. cable with UL approval AVLV2/8 and/or cable with UL approval CYJV/7 or CYJV/8 or PVVA/7 or PVVA2/8, in each case approved for ambient temperatures > 90 °C).

4.1 General information

NOTE!

Check that the device is compatible with the measurement medium ⇨ chapter 8.4 "Environmental influences", Page 22.

Mounting site

- Ensure that the device is fastened safely and with low vibrations
- Avoid direct sunlight
- Please note the admissible ambient temperatures at the installation position ⇨ chapter 8.4 "Environmental influences", Page 22

Installation position

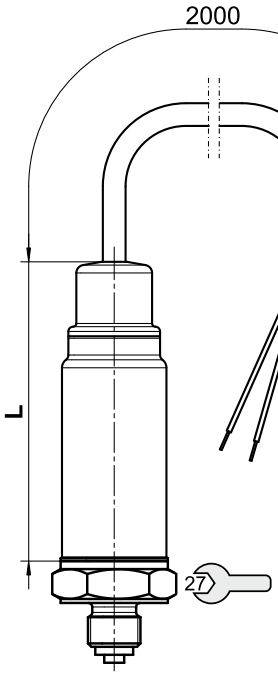
The device can be installed in any position.
We recommend the "upright" installation position, as shown below:

4 Mounting

4.2 Dimensions

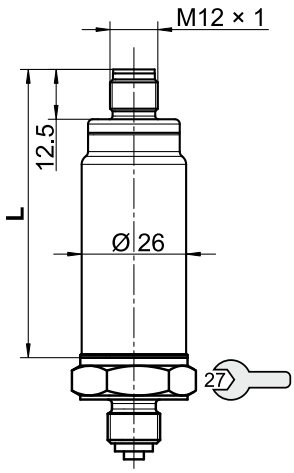
4.2.1 Transmitter with electrical connections

12
Attached cable, length of 2 m (standard)



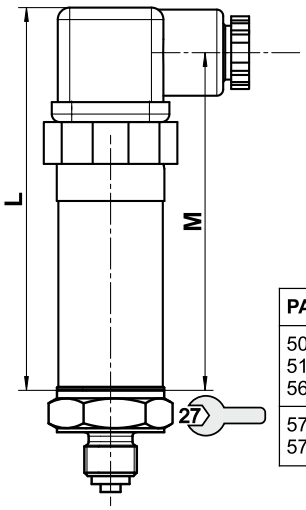
PA	L (mm)
502, 504, 511, 512, 562, 574	75
571, 575, 576	50

36
Round plug M12 × 1



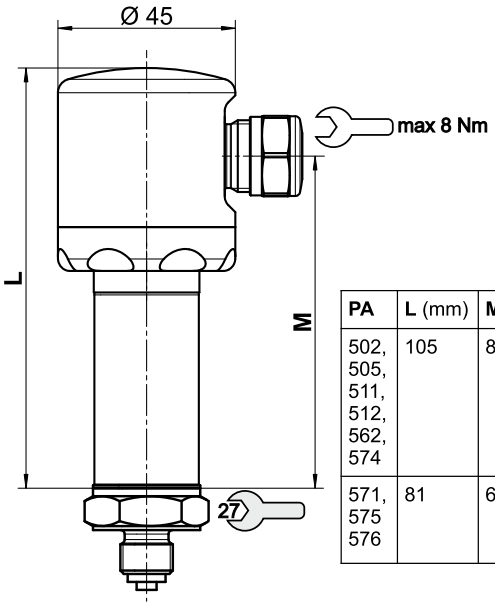
PA	L (mm)
502, 504, 511, 512, 562, 574	73
571, 575, 576	48

61
Line socket DIN EN 175301-803, form A



PA	L (mm)	M (mm)
502, 504, 511, 512, 562, 574	96	85
571, 575, 576	71	60

75
Terminal head



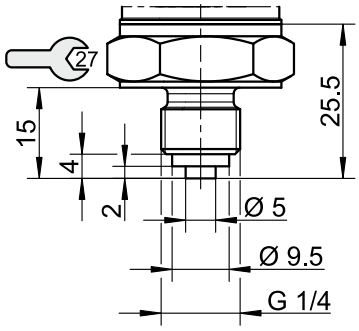
PA	L (mm)	M (mm)
502, 505, 511, 512, 562, 574	105	84
571, 575 576	81	61

Cable fitting M16, seal area 5 to 11 mm

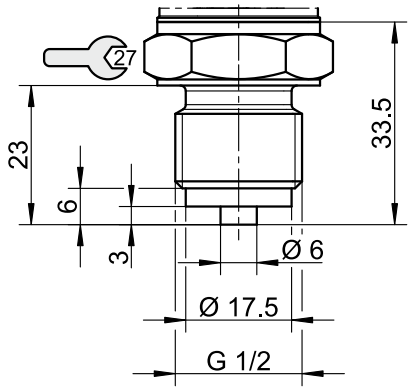
PA = process connection

4.2.2 Process connections, not front-flush

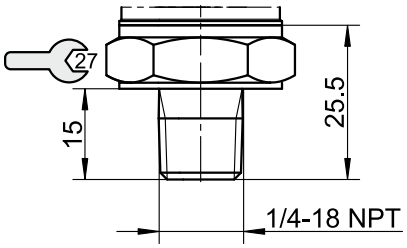
502
G 1/4 DIN EN 837



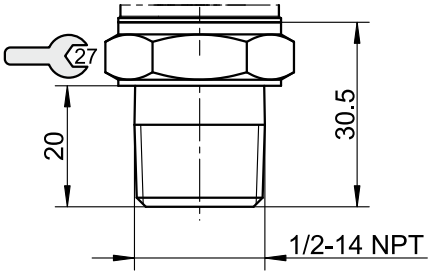
504
G 1/2 DIN EN 837



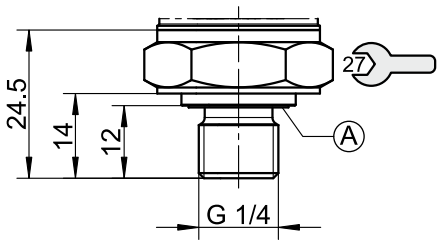
511
1/4-18 NPT DIN EN 837



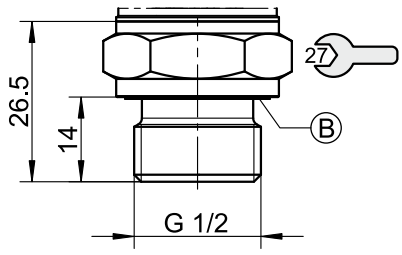
512
1/2-14 NPT DIN EN 837



521
G 1/4 DIN 3852-11



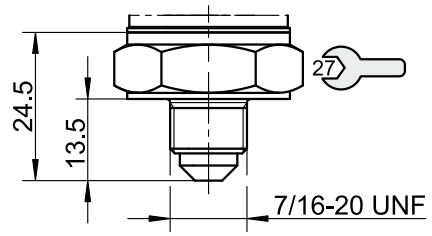
523
G 1/2 DIN 3852-11



Ⓐ Profile sealing ring G 1/4

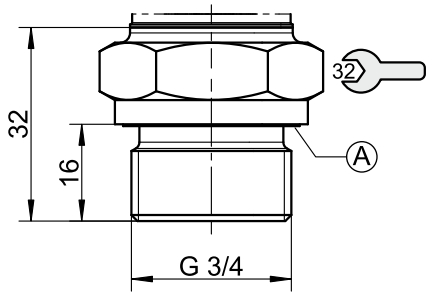
Ⓑ Profile sealing ring G 1/2

562
7/16-20 UNF

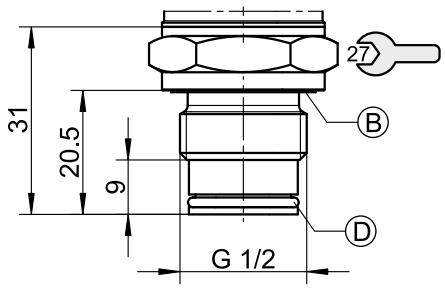


4.2.3 Process connections, front-flush

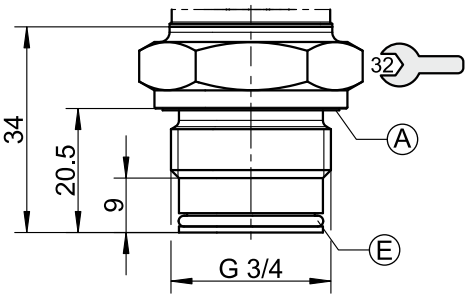
571
G 3/4 DIN EN ISO 228-1



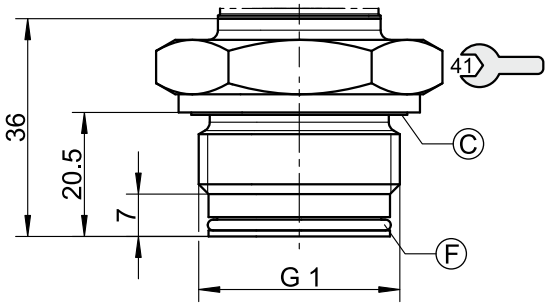
574
G 1/2 with double seal



575
G 3/4 with double seal



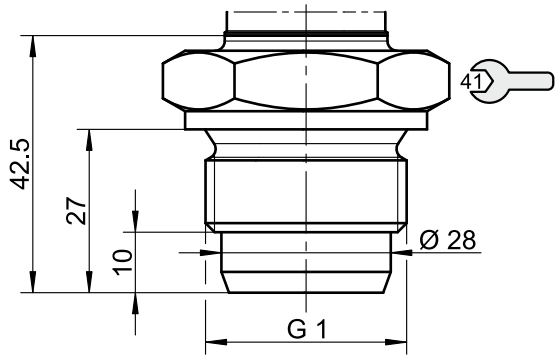
576
G 1 with double seal



Ⓐ Profile sealing ring G 3/4
Ⓑ Profile sealing ring G 1/2
Ⓒ Profile sealing ring G 1
Ⓓ O-ring 15.1 × 1.6
Ⓔ O-ring 20.35 × 1.78
Ⓕ O-ring 26.7 × 1.78

581

G 1 front-flush with conical seal



5 Electrical connection

5.1 Installation notes

NOTE!

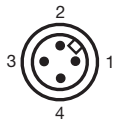
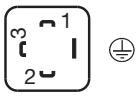
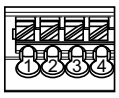
The electrical connection must only be performed by qualified personnel.

The electromagnetic compatibility meets standard DIN EN 61326.

Do not connect any additional loads to the voltage supply of the device.

The device is not suitable for installation in potentially explosive areas.

5.2 Connection diagram

Connection		**Terminal assignment**[a]			
					
		12 Attached cable	36 Round plug M12 × 1	61 Cable socket	75 Terminal head
4 to 20 mA, 2-wire (output 405)					
Voltage supply DC 8 to 30 V	U_B/S+	White	1	1	1
	0 V/S-	Black	3	2	2
DC 0 to 10 V, 3-wire (output 415)					
Voltage supply DC 11.5 V to 30 V	U_B	White	1	1	1
	0 V/S-	Black	2	2	2
	S+	Yellow	3	3	3
DC 1 to 5 V, three-wire (output 418) **DC 1 to 6 V, three-wire (output 420)**					
Voltage supply DC 10 to 30 V	U_B	White	1	1	1
	0 V/S-	Black	2	2	2
	S+	Yellow	3	3	3

Functional bonding conductor FB[b] (all output variants)	⏚	Shield/green	4	⏚	4

[a] Figure: Connection to the pressure transmitter

[b] As a basic principle, the device is grounded via the process connection. Alternatively, the device can also be grounded via the electrical connection on all variants. However, grounding via both the process connection **and** the electrical connection is not admissible.

Admissible effect on the "attached cable" variant	
Smallest bending radius (fixed)	40 mm
Max. tensile force on the cable	20 N

6.1 Zero point adjustment

General information

In the case of device versions designed for relative pressure, there is the option of a simple pressure/zero point adjustment (offset) using a magnet (remanence $B_R \geq 1$ T, e.g. NdFeB dia. 4 mm × 10 mm). This actuates a magnetoresistive switch inside the device when approaching it. A suitable magnet is available from JUMO as an accessory (part no. 00736330).

This provides a quick and simple way to correct zero point offsets caused by the installation or zero point offsets that have arisen following autoclaving, for example.

Requirements

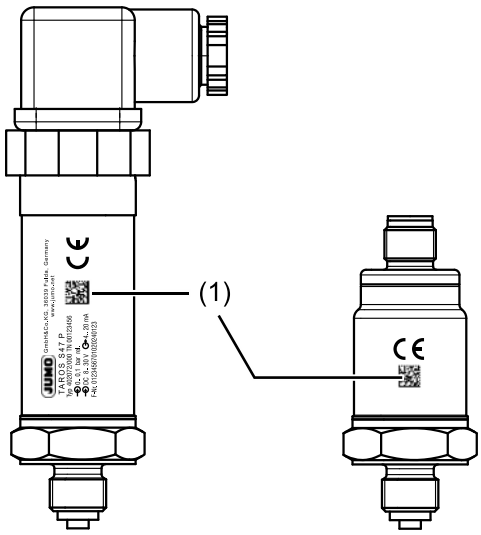
The following conditions must be met in order to carry out a successful zero point adjustment:

- The adjustment must take place within a **timeframe of a maximum of 2 seconds** once the device is switched on.
- The pressure at the device at the point of the zero point adjustment must **not deviate more than ±10 %** from the positive pressure measuring range of the device[1].

Procedure

1. Hold the magnet at the position of the QR code (1) on the nameplate of the device.
2. Switch on the voltage supply for the device.
   The device recognizes the magnet (within the first 2 seconds) and automatically re-adjusts the zero point. As a result, the switch-on time is slightly delayed
3. Remove the magnet from the housing and keep it for further use.

The zero point adjustment is complete. The new zero point is permanently saved. However, you can carry out a further zero point adjustment at any time.



NOTE!

If the magnetic field is not applied within the timeframe of approx. 2 seconds after the device is switched on, it will not affect the zero point of the device.

A further zero point adjustment can only take place once the device has been switched off and switched back on again.

[1] Example 1: Measuring range 0 to 1 bar rel.; deviation from ambient pressure max. ±0.1 bar.
Example 2: Measuring range -1 to +0.6 bar rel.; deviation from ambient pressure max. ±0.1 bar.
Example 3: Measuring range -1 to 5 bar rel.; deviation from ambient pressure max. ±0.5 bar.

7 Maintenance, cleaning and returns

7.1 Maintenance

The pressure transmitter is maintenance-free.

In the event of a malfunction, please return the device to the manufacturer together with accurate fault information.

7.2 Manual cleaning for maintenance or storage

The pressure transmitter – especially the parts in contact with the product – must not be damaged. Any damage to the stainless steel membrane must be avoided. The cleaning agent must not attack the surface and seals.

Note the protection type of the device.

WARNING!

Risk of burning due to hot surfaces

The pressure transmitter's surfaces are subjected to hot temperatures of up to 125 °C. Contact with these surfaces could result in burns to the skin.

▶ When servicing the transmitter, check its surface temperature and, if necessary, wait until it has cooled.

7.3 Returns

NOTE!

In case of abnormalities, please send the device to the manufacturer together with a completed cover note for product returns. You can download a blank copy of this cover note online at: **http://produktruecksendung.jumo.info**.

8.1 Mechanical features

Materials of parts coming into contact with the pressurized medium	
Membrane	Stainless steel 1.4435 (316L)
O-ring/sealing ring	FPM, others available as an optional extra (e.g. EPDM, VMQ)
Process connection	Stainless steel 1.4571 (316Ti)
Welding ring	Stainless steel 1.4404 (316L)
Materials of other parts	
Housing	Stainless steel 1.4301 (304)
Electrical connection	
Attached cable	Cable fitting made from stainless steel 1.4301 (304); PUR cable with and without pressure compensation
Round plug M12 × 1	Threaded bushing made from stainless steel 1.4301 (304)
Line socket	Holding ring/connector fastener made from high-quality plastic, comparable with PBT GF30 V0
Terminal head	Stainless steel 1.4301 (304); cable fitting: stainless steel
Rated position	Upright, with downward process connection
Operating position	Any, but there may be a zero offset relative to the rated position

8.2 Measuring range and accuracy

Measuring range	**Linearity[a]**	**Accuracy at**			**Long-term stability[b]**	**Overload capability[c]**	**Burst pressure**
		20 °C[d]	**-20 to +80 °C[e]**	**-20 to +100 °C**			
	% MSP[f]	**% MSP**	**% MSP**	**% MSP**	**% MSP per year**	**bar**	**bar**
-1 to 0 bar relative pressure	0.15	0.3	1	1.2	≤ 0.15	10	20
-1 to +0.6 bar relative pressure	0.15	0.3	1	1.2	≤ 0.15	10	20
-1 bar to +1 bar relative pressure	0.15	0.3	1	1.2	≤ 0.15	10	20
-1 to +1.5 bar relative pressure	0.15	0.3	1	1.2	≤ 0.15	20	40
-1 to +3 bar relative pressure	0.1	0.25	0.75	0.8	≤ 0.1	25	50
-1 to +5 bar relative pressure	0.1	0.25	0.75	0.8	≤ 0.1	50	60
-1 to +9 bar relative pressure	0.1	0.25	0.75	0.8	≤ 0.1	50	60
-1 to +15 bar relative pressure	0.1	0.25	0.75	0.8	≤ 0.1	120	200
-1 to +24 bar relative pressure	0.1	0.25	0.75	0.8	≤ 0.1	120	200
-0.4 to +0.4 bar relative pressure	0.15	0.4	1	1.2	≤ 0.2	10	20
-0.1 to +0.1 bar relative pressure	0.2	0.5	1	1.2	≤ 0.2	6	10
0 to 0.1 bar relative pressure	0.25	0.75	1.2	---	≤ 0.2	1.5	3
0 to 0.16 bar relative pressure	0.25	0.75	1.2	1.5	≤ 0.2	6	10
0 to 0.25 bar relative pressure	0.25	0.5	1	1.2	≤ 0.2	6	10
0 to 0.4 bar relative pressure	0.15	0.4	1	1.2	≤ 0.15	10	20
0 to 0.6 bar relative pressure	0.15	0.4	1	1.2	≤ 0.15	10	20
0 to 1 bar relative pressure	0.15	0.3	1	1.2	≤ 0.15	10	20
0 to 1.6 bar relative pressure	0.15	0.3	1	1.2	≤ 0.15	20	40
0 to 2.5 bar relative pressure	0.15	0.3	1	1.2	≤ 0.1	20	40
0 to 4 bar relative pressure	0.1	0.25	0.75	0.8	≤ 0.1	25	50

8 Technical data

Measuring range	Linearity[a]	Accuracy at			Long-term stability[b]	Overload capability[c]	Burst pressure
		20 °C[d]	-20 to +80 °C[e]	-20 to +100 °C			
	% MSP[f]	% MSP	% MSP	% MSP	% MSP per year	bar	bar
0 to 6 bar relative pressure	0.1	0.25	0.75	0.8	≤ 0.1	50	60
0 to 10 bar relative pressure	0.1	0.25	0.75	0.8	≤ 0.1	50	60
0 bar to 16 bar relative pressure	0.1	0.25	0.75	0.8	≤ 0.1	120	200
0 bar to 25 bar relative pressure	0.1	0.25	0.75	0.8	≤ 0.1	120	200
0 bar to 40 bar relative pressure	0.1	0.25	0.75	0.8	≤ 0.1	300	400
0 bar to 60 bar relative pressure	0.1	0.25	0.75	0.8	≤ 0.1	300	400
0 bar to 100 bar relative pressure	0.1	0.25	0.75	0.8	≤ 0.1	300	400
0 to 0.6 bar absolute pressure	0.15	0.4	1	1.2	≤ 0.15	10	20
0 to 1 bar absolute pressure	0.15	0.3	1	1.2	≤ 0.15	10	20
0 to 1.6 bar absolute pressure	0.15	0.3	1	1.2	≤ 0.15	20	40
0 to 2.5 bar absolute pressure	0.15	0.3	1	1.2	≤ 0.1	20	40
0 to 4 bar absolute pressure	0.1	0.25	0.75	0.8	≤ 0.1	25	50
0 to 5 bar absolute pressure	0.1	0.25	0.75	0.8	≤ 0.1	25	50
0 to 6 bar absolute pressure	0.1	0.25	0.75	0.8	≤ 0.1	50	60
0 to 10 bar absolute pressure	0.1	0.25	0.75	0.8	≤ 0.1	50	60
0 to 16 bar absolute pressure	0.1	0.25	0.75	0.8	≤ 0.1	120	200
0 to 25 bar absolute pressure	0.1	0.25	0.75	0.8	≤ 0.1	120	200
0 to 40 bar absolute pressure	0.1	0.25	0.75	0.8	≤ 0.1	200	300

[a] Linearity according to limit point setting

[b] Reference conditions EN 61298-1

[c] All measuring ranges are vacuum proof.

[d] Includes: linearity, hysteresis, repeatability, deviation of measuring range start value (offset) and measuring range end value

[e] Includes: linearity, hysteresis, repeatability, deviation of measuring range start value (offset) and measuring range end value, thermal effect on measuring range start (offset) and measuring span

[f] MSP = measuring span

8.3 Electrical data

Voltage supply[a]	
2-wire circuit[b]	
4 to 20 mA	DC 8 to 30 V, nominal voltage DC 24 V
3-wire[c]	
DC 0 to 10 V	DC 11.5 V to 30 V, nominal voltage DC 24 V
DC 1 to 5 V	DC 10 V to 30 V, nominal voltage DC 24 V
DC 1 to 6 V	DC 10 V to 30 V, nominal voltage DC 24 V

[a] The auxiliary energy of the pressure transmitter must meet SELV requirements. Furthermore, the device must be equipped with an electrical circuit that meets the requirements of EN 61010-1 with regard to "Limited-energy circuits".

[b] Maximum current consumption ≤ 25 mA.

[c] Maximum current consumption ≤ 5 mA.

Burden/load[a]	
2-wire circuit	
4 to 20 mA	$R_L \leq (U_B - 8\ V) \div 0.02\ A\ (\Omega)$
3-wire	
DC 0 to 10 V	$R_L \geq 10\ k\Omega$
DC 1 to 5 V	$R_L \geq 10\ k\Omega$
DC 1 to 6 V	$R_L \geq 10\ k\Omega$

[a] Maximum effect < 0.5 %.

Behavior if measured value is out of range	Error signal in the case of	NAMUR exceedance, linear
Two-wire		
4 to 20 mA	≤ 3.6 mA and ≥ 21.5 mA	3.8 to 20.5 mA
Three-wire		
DC 0 to 10 V	10.7 V	0 to 10.5 V
DC 1 to 5 V	5.7 V	0.8 to 5.5 V
DC 1 to 6 V	6.7 V	0.8 to 6.5 V

Behavior after power on	Ready for operation after < 120 ms
Voltage supply influence	≤ 0.02 %/V
Reverse voltage protection	U_B to 0 V (all output variants)
Short-circuit resistance	S+ to 0 V (only voltage variants)
Overvoltage protection	The operating voltage must be restricted to max. 33 V
Step response of 90 % (according to DIN 16068 Point 3.3.8)	< 5 ms

Insulation resistance	> 100 MΩ at DC 500 V
Insulation voltage	AC 500 V

8 Technical data

8.4 Environmental influences

Admissible temperatures	Ambient temperature	Medium temperature	Storage temperature
with MSP[a] ≤ 0.4 bar	-20 to +85 °C	-20 °C to +125 °C	-20 to +100 °C
with MSP > 0.4 bar	-40 to +85 °C	-40 to +125 °C	-40 to +100 °C

[a] MSP = measuring span

Resistance to climatic conditions	100 % relative humidity including condensation on the device's outer case; 90 % relative humidity without condensation
Protection type	According to DIN EN 60529
Types with attached cable	IP68[a] (IP66/IP68)
Types with round plug M12 × 1	IP67 (IP66/IP67)
Types with line socket	IP65
Types with terminal head	IP69 (IP66/IP69)
Admissible mechanical load	
Vibration resistance	20 g at 10 to 2000 Hz, 10 cycles per axis, device in X, Y, Z axis, industrial requirement according to IEC 60068-2-6
Shock resistance	50 g for 11 ms and 100 g for 1 ms, industrial requirement according to IEC 60068-2-27
Electromagnetic compatibility (EMC)	According to DIN EN 61326-2-3
Interference emission	Class A – only for industrial use –
Interference immunity	Industrial requirement
Process media	Liquid and gaseous media which are compatible with the materials of the parts coming into contact with the pressurized medium

[a] For 1 h at a depth of 2 m.

8.5 Approvals and approval marks

EAC	
Test facility	Промтехконтроль
Certificate/certification number	ЕАЭС N RU Д-DE.PA01.B.80830/21
Inspection basis	TR TS 020/2011
Valid for	All device versions
c UL us	
Test facility	Underwriters Laboratories
Certificate/certification number	E201387
Inspection basis	UL 61010-1 (3rd Ed.), CAN/CSA-22.2 No. 61010-1 (3rd Ed.)
Valid for	All device versions with electrical connections 36, 61 and 75

						
产品组别 Product group: 402072	产品中有害物质的名称及含量 China EEP Hazardous Substances Information					
部件名称 Component Name						
	铅 （Pb）	汞 （Hg）	镉 （Cd）	六价铬 （Cr(VI)）	多溴联苯 （PBB）	多溴二苯醚 （PBDE）
外壳 Housing (Gehäuse)	○	○	○	○	○	○
过程连接 Process connection (Prozessanschluss)	X	○	○	○	○	○
螺母 Nuts (Mutter)	○	○	○	○	○	○
螺栓 Screw (Schraube)	○	○	○	○	○	○

本表格依据SJ/T 11364的规定编制。
This table is prepared in accordance with the provisions SJ/T 11364.
○：表示该有害物质在该部件所有均质材料中的含量均在GB/T 26572规定的限量要求以下。
Indicate the hazardous substances in all homogeneous materials' for the part is below the limit of the GB/T 26572.

×：表示该有害物质至少在该部件的某一均质材料中的含量超出GB/T 26572规定的限量要求。
Indicate the hazardous substances in at least one homogeneous materials' of the part is exceeded the limit of the GB/T 26572.

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